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TACTICAL RECOVERY OF AIRCRAFT AND PERSONNEL: A RELEVANT CAPABILITY FOR A MORAL OBLIGATION

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ABSTRACT *(MAXIMUM 200 WORDS)* ***THIS STUDY ADDRESSES THE HISTORY AND RELEVANCE OF TRAP AS A COMBAT SEARCH AND RESCUE (CSAR) AND PR CONCEPT IN THE UNITED STATES MARINE CORPS. THE DOD REQUIRES EACH SERVICE TO PROVIDE CSAR IN SUPPORT OF THEIR OWN OPERATIONS, AND TRAP IS THE EXTANT CONCEPT WITHIN THE MARINE CORPS THAT SUPPORTS THIS REQUIREMENT. THIS PAPER EXAMINES MORAL AND FINANCIAL REASONS FOR CONDUCTING PERSONNEL AND AIRCRAFT RECOVERY MISSIONS. THE MORAL ISSUES AND FINANCIAL ISSUES COMBINED WITH THE MANY EXISTING INTANGIBLES WITHIN THE PR ARENA CREATE A COMPLEX PROBLEM FOR LEADERS AND COMMANDERS TO DEAL WITH. TRAP IS A RELEVANT, ROBUST AND FLEXIBLE CAPABILITY THAT SATISFIES THE REQUIREMENT FOR THE MARINE CORPS TO PROVIDE CSAR IN SUPPORT OF ITS OWN OPERATIONS. THE ARGUMENT SUPPORTING THE EXECUTION OF PR MISSIONS ARE BASED MORE ON A MORAL OBLIGATION AND OTHER RELATED INTANGIBLES THAN ON FINANCIAL REASONS. TRAP SATISFIES THE MORAL OBLIGATION TO SAVE FELLOW SERVICEMEN WHILE ALSO SUPPORTING THE FINANCIAL AND OPERATIONAL SECURITY INCENTIVES TO RECOVER DOWNED OR DAMAGED AIRCRAFT. TRAP IS A CAPABILITY THAT THE UNITED STATES MARINE CORPS MUST CONTINUE TO TRAIN FOR IN ORDER TO MEET FUTURE PR AND AIRCRAFT RECOVERY REQUIREMENTS ACROSS THE SPECTRUM OF CONFLICT.***

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Executive Summary

Title: Tactical Recovery of Aircraft and Personnel: A Relevant Capability for a Moral Obligation

Author: Major Paul A. Fortunato, USMC

Thesis: United States Marine Corps Tactical Recovery of Aircraft and Personnel (TRAP) provides a relevant, robust, and flexible capability for conducting personnel and aircraft recovery. TRAP is a complementary not competing personnel recovery (PR) capability within the Department of Defense for the Marine Air Ground Task Force (MAGTF) and Joint Force Commander (JFC), and is a capability that should be retained by the Marine Corps.

Discussion: This study addresses the history and relevance of TRAP as a Combat Search and Rescue (CSAR) and PR concept in the United States Marine Corps. The DOD requires each service to provide CSAR in support of their own operations, and TRAP is the extant concept within the Marine Corps that supports this requirement. The Marine Corps has a long history of combat rescues and TRAPs extending from 1932 in Nicaragua to the present day in Afghanistan. TRAP has evolved slowly yet steadily during this period, but it has had the most formative years during the past three decades.

This study largely focuses on TRAP within deploying Marine Expeditionary Units, and the CSAR capability that it provides to the MAGTF and JFC. This paper examines both moral and financial reasons for conducting personnel and aircraft recovery missions. The moral issues and financial issues combined with the many existing intangibles within the PR arena create a complex problem for leaders and commanders to deal with.

Conclusions: Based on the research and assessment in this paper, it is evident that TRAP is a relevant, robust and flexible capability that satisfies the DOD requirement for the Marine Corps to provide CSAR in support of its own operations. There is rarely a financial argument to conduct a PR mission. The argument supporting the execution of PR missions are based more on a moral obligation and other related intangibles. TRAP satisfies the moral obligation to save fellow servicemen while also supporting the additional financial and operational security incentives to recover downed or damaged aircraft. TRAP is a capability that the United States Marine Corps must continue to train for in order to meet future PR and aircraft recovery requirements across the spectrum of conflict.

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Chapter 1 - Introduction

In this study, I intend to address the history and relevance of Tactical Recovery of Aircraft and Personnel (TRAP) as a Combat Search and Rescue (CSAR) concept in the United States Marine Corps (USMC). I will review current joint and Marine Corps requirements for CSAR and TRAP with specific emphasis on airborne personnel recovery (PR). I will examine the USMC capabilities for TRAP and CSAR and compare them to what is provided by other US armed forces.

This paper will assess whether USMC TRAP is a competing or redundant capability or a complementary capability within the Department of Defense (DOD). In doing so, I will analyze cost-benefit and risk-gain in both monetary and moral terms. Finally, I will examine whether and to what extent there is value in retaining TRAP as a USMC mission.

The scope of this paper encompasses TRAP in support of Marine Air Ground Task Force (MAGTF) operations with specific emphasis on Marine Expeditionary Unit (Special Operations Capable) (MEU (SOC)) TRAP operations.

Department of Defense (DOD) Oversight

The executive summary of the PR function within the DOD states:

> The Deputy Assistant Secretary of Defense (POW/Missing Personnel Affairs (DPMO)) assumed policy, control, and oversight for responsibility for personnel recovery within the DOD in August 1996. In 1997, DPMO consolidated previous SAR and CSAR guidance into a single DOD directive. This directive assigned the Secretary of the Air Force as the executive agent (EA) for personnel recovery. [1]

[1] Defense Prisoner of War/Missing Personnel Office, *Executive Summary of the Personnel Recovery Function* (Washington D.C., no date). <http://www.dtic.mil/dpmo/pr/exsum.pdf>

DOD Requirement for Combat Search and Rescue

Joint Publication 3-50.2, *Doctrine for Joint Combat Search and Rescue*, dictates service responsibilities for performing Joint CSAR:

> Each Service and the US Special Operations Command are responsible for performing combat search and rescue (CSAR) in support of their own operations. **JFCs normally delegate responsibility to recover personnel to the joint force component commanders.** Additionally, **the JFC should establish a joint search and rescue center** (JSRC) to monitor recovery efforts; to plan, coordinate, and execute joint search and rescue and CSAR operations; and to integrate CSAR operations with other evasion, escape, and recovery operations within the geographical area assigned to the joint force. **JFCs normally exercise control of all forces committed to a joint CSAR operation. Component commanders** who are part of a joint force are responsible for planning and conducting CSAR operations in support of their own operations that are conducted while executing the JFC's campaign and operation plans. **Unit commanders** should be prepared, based on inherent capabilities, to conduct CSAR in support of their own operations and to provide mutual CSAR support to other units. Such CSAR support should be planned concurrently with ongoing offensive and/or defensive combat operations and should take into account the capabilities of adjacent units.[2]

The above excerpt from the joint doctrine for CSAR gives responsibility of PR to the component commander. The organic PR concept employed by the Marine Corps service component commander is TRAP. Further, the service component commander is tasked to be prepared to provide mutual CSAR support to other services' operations. Key terms associated with the service components' personnel recovery responsibilities are defined below.

Definitions

> **Personnel Recovery (PR)—**The aggregation of military, civil, and political efforts to obtain the release or recovery of personnel from uncertain or hostile

[2] Joint Chiefs of Staff, *Doctrine for Joint Combat Search and Rescue*, *Joint Pub 3-50.2* (Washington D.C.: Government Printing Office, 26 January 1996), I-1. Emphasis in source document.

environments and denied areas whether they are captured, missing, or isolated. That includes US, allied, coalition, friendly military, or paramilitary, and others as designated by the National Command Authorities. Personnel recovery (PR) is the umbrella term for operations that are focused on the task of recovering captured, missing, or isolated personnel from harm's way. PR includes, but is not limited to, theater search and rescue; combat search and rescue; search and rescue; survival, evasion, resistance, and escape; evasion and escape; and the coordination of negotiated as well as forcible recovery options. PR can occur through military action, action by nongovernmental organizations, other US Government-approved action, and/or diplomatic initiatives, or through any of these. Also called PR.[3]

Combat Search and Rescue (CSAR)—A specific task performed by rescue forces to effect the recovery of distressed personnel during war or military operations other than war. Also called CSAR.[4]

Tactical Recovery of Aircraft and Personnel (TRAP)—A mission performed by an assigned and briefed aircrew for the specific purpose of the recovery of personnel, equipment, and/or aircraft when the tactical situation precludes search and rescue assets from responding and when survivors and their location have been confirmed.[5]

Joint Search and Rescue Center (JSRC)—A primary search and rescue facility suitably staffed by supervisory personnel and equipped for planning, coordinating, and executing joint search and rescue and combat search and rescue operations within the geographical area assigned to the joint force. The facility is operated jointly by personnel from two or more Services or functional components or it may have a multinational staff of personnel from two or more allied or coalition nations (multinational search and rescue center). The joint search and rescue center should be staffed equitably by trained personnel drawn from each joint force component, including US Coast Guard participation where practical. Also called JSRC. See also rescue coordination center.[6]

Rescue Coordination Center (RCC) - A primary search and rescue facility suitably staffed by supervisory personnel and equipped for coordinating and controlling search and rescue and/or combat search and rescue operations. The facility is operated unilaterally by personnel of a single Service or component. For Navy component operations, this facility may be called a rescue coordination team. Also called RCC (or RCT for Navy component).[7]

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[3] Joint Chiefs of Staff, *Department of Defense Dictionary of Military and Associated Terms, Joint Pub 1-02* (Washington D.C.: Government Printing Office, 12 April 2001), 325.
[4] *Joint Pub 1-02*, 77.
[5] U.S. Marine Corps, *Marine Corps Supplement to the DOD Dictionary of Military Terms, MCRP 5-12C* (Washington D.C.: Government Printing Office, 23 July 1998), 84. There is not a definition for TRAP in the DOD dictionary or Joint Publication 3-50.21 (JTTP for CSAR).
[6] *Joint Pub 1-02*, 229.
[7] *Joint Pub 1-02*, 365.

CSAR Capabilities and Resources of the US Armed Forces

CSAR Capabilities of the US Armed forces are described in Joint Publication 3-50.2, *Doctrine for Joint CSAR.*

US Army. The Army does not have dedicated CSAR units or aircraft; however, CSAR is a secondary mission for Army aviation, medical evacuation (MEDEVAC) units, and watercraft units. Additionally, ground maneuver units could be assigned to accomplish CSAR operations. MEDEVAC operations should not be considered CSAR and normally would not be of concern to the Army component RCC. MEDEVAC units are equipped and trained in air crash rescue support (less fire suppression), extraction of personnel from crashed aircraft, emergency aid at the crash site, and en route treatment during MEDEVAC. When MEDEVAC aircraft are used for recovery of isolated personnel in a semi-permissive or non-permissive operational environment, adequate protection must be provided. Because of insufficient quantities of rescue equipment, CSAR missions are secondary missions for helicopter units and other Army units tasked by the JFC.[8]

US Navy. Determination of assets employed in a CSAR role is affected by the theater of operations and the threat level. Types of assets available to the officer in tactical command (OTC) include the following: Helicopters, Special Operations Forces (SEALS), surface vessels and subsurface vessels.[9]

US Air Force. Dedicated USAF rescue and recovery assets include HH-60G helicopters; HC-130P/N fixed-wing aircraft; and RCC controllers, pararescue personnel, SAR duty officers, and SAR liaison officers. Dedicated forces mobilized for deployment are selected and tailored based upon the scope of the conflict. Rescue aircraft and aircrews are made available to the RCC for daily tasking as necessary. With proper coordination and on a case-by-case basis, other USAF resources such as Combat Air Forces (CAF) fighters and command and control aircraft can augment and enhance the capability of primary USAF rescue assets.[10]

US Coast Guard. All USCG cutters, aircraft, and boats are multi-mission vessels that can be considered potential CSAR resources. USCG cutters range from high

[8] *Joint Pub 3-50.2*, Appendix A.
[9] *Joint Pub 3-50.2*, Appendix B.
[10] *Joint Pub 3-50.2*, Appendix D.

and medium endurance cutters, which can operate offshore for extended periods of time, to coastal patrol and utility boats capable of operating in coastal and local waters for short duration. USCG aircraft include HC-130 and HU-25 fixed-wing aircraft capable of extended long-range CSAR, HH-65 helicopters for short-duration local CSAR operations, and HH-60J helicopters for medium-range CSAR.[11]

US Special Operations Forces. The Joint Force Special Operations Component Commander (JFSOCC), as either the commander of the theater special operations command (SOC) or a Joint Special Operations Task Force (JSOTF), has CSAR capabilities inherent in the command's forces, equipment, and training. SOF conducting CSAR would be doing so as a collateral special operations activity. This would be accomplished when the specialized capabilities of SOF may be required to recover isolated personnel beyond the capabilities of other components. Normally, SOF is responsible for the CSAR of its own forces, except when use of non-SOF CSAR forces is appropriate in more benign environments and these non-SOF CSAR forces are available.[12]

USMC. The Marine Corps views CSAR as an implied tasking that should not detract from primary functions. Marine Corps forces perform self-supporting recovery operations and external CSAR support through a concept known as TRAP. Marine air-ground task forces (MAGTFs) do not routinely train to conduct the search portion of CSAR, particularly in a medium or high air threat environment. The TRAP mission differs from CSAR in that it usually does not involve extended air search procedures to locate possible survivors. The TRAP concept emphasizes detailed planning and the use of assigned and briefed aircrew for the specific purpose of the recovery of personnel and/or aircraft when the tactical situation precludes SAR assets from responding and when survivors and their locations have been confirmed.[13]

Of the above service capabilities, the Air Force and SOF capabilities are the most specialized in terms of training and equipment to conduct CSAR. The Air Force, with its pararescue experts may not, however, always be available or be able to get to the rescue objective area in time. The SOF assets are certainly capable of conducting specialized rescue efforts beyond the capabilities of the other services, but they also may not always be able to get to the rescue objective area. The Marine Corps, with its TRAP capability,

[11] *Joint Pub 3-50.2*, Appendix E.
[12] *Joint Pub 3-50.2*, Appendix F.

is the only maritime, forward deployed rescue and recovery force available to the United States military. The inherent flexibility and virtually assured access of a maritime force such as an Amphibious Ready Group (ARG) with embarked Marines provides the geographic Commander-in-Chief (CinC), Joint Force Commander (JFC) or Marine Air Ground Task Force (MAGTF) commander with a ready and relevant platform from which to launch trained CSAR forces such as a Marine TRAP force.

[13] *Joint Pub 3-50.2*, Appendix C.

Chapter 2 – TRAP: The Concept

TRAP is the Marine Corps concept for CSAR. The Marine Corps conducts TRAP as a part of a MAGTF. The MAGTF is composed of a command element (CE), aviation combat element (ACE), ground combat element (GCE), and combat service support element (CSSE). All MEU(SOC)s, which are one form of MAGTF, conduct specific TRAP training prior to certification. Special Purpose MAGTFs may also be organized to perform TRAP missions when necessary.[14]

In the uncertain global environment that we now face, Marine expeditionary forces face the possibility of being committed to myriad contingency operations across the spectrum of warfare. These operations can range from amphibious forcible entry to operations other than war, such as noncombatant evacuation operations, peace support operations, disaster relief, and humanitarian assistance. These operations can be unilateral, joint, or combined and the Marine forces employed will vary in size and composition depending on the type of operation and the resources available.

Most likely, Marines will be employed as part of a joint task force. Recent examples include Operations SEA ANGEL in Bangladesh, RESTORE HOPE in Somalia, UPHOLD DEMOCRACY in Haiti, DENY FLIGHT in Bosnia, including the TRAP mission that rescued Air Force Captain Scott O'Grady, and most recently Operation

[14] Defense Prisoner of War/Missing Personnel Office, *Executive Summary of the Personnel Recovery Function*

ENDURING FREEDOM in Afghanistan. Considering the emerging threat environment, the likelihood of executing a Marine TRAP mission in like situations is high.[15]

The execution phase of a TRAP mission is arguably the most difficult task facing a Marine helicopter aircrew. Faced with a fluid tactical situation, a hostile environment, a potentially injured survivor, and little time to finalize planning and coordination requirements, chances for success have historically been low. Because each tactical situation is unique, there is no standard TRAP mission. Like any other combat operation, the keys to TRAP success lie in the proper attention to training and planning, continuous coordination between TRAP forces and rescue agencies, and the application of the appropriate tactics, techniques, and procedures by both the recovery force and the survivors.[16] Perhaps one of the best TRAP summaries can be found in the Marine helicopter Tactical Manual series:

> Because of the many uncertainties, TRAP is often the most difficult mission on the modern battlefield. In any situation, the ultimate goal of TRAP is to effect the expeditious recovery of our personnel without further loss to friendly forces. Mission success will depend on thorough pre-mission planning, accurate intelligence, known survivor location, flexible and redundant command and control, and highly trained TRAP forces.[17]

TRAP falls under the assault support function of Marine Corps aviation. Assault support is one of six functions and provides tactical mobility and logistical support for the MAGTF and can be used to enhance the rapid buildup of combat power and to facilitate rapid ground force maneuver. Marine Corps assault support platforms include the CH-53E, the CH-46E, to a limited extent the UH-1N, the KC-130J, and eventually the MV-

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[15] Department of the Navy, Office of the Chief of Naval Operations, *CH-53 Tactical Manual, NWP 3-22.5-CH53, Volume I, NAVAIR A1-H53BE-TAC-000* (Washington D.C.: Government Printing Office, August 1997), 16-1.
[16] *NWP 3-22.5-CH53,* 16-1.
[17] *NWP 3-22.5-CH53,* 16-13.

22. Assault support enhances the MAGTF commander's ability to pit strength against weakness and take advantage of fleeting opportunities throughout the battlespace.[18]

TRAP is one of seven types of operations within the assault support function. TRAP missions facilitate the recovery of personnel and equipment while avoiding additional loss. The TRAP mission is an implied task associated with all MAGTF operations. Specially trained and briefed aircrews, with a task-organized force from the GCE, are assigned to perform TRAP missions. TRAP missions are conducted when the tactical situation prevents the use of traditional search and rescue techniques and only when survivors and their locations are confirmed. TRAP missions stress:

- Detailed planning
- Assigned and briefed aircrews.
- Confirmation of survivors and their locations.[19]

By using the TRAP concept, the Marine Corps satisfies the Joint Chiefs of Staff (JCS) requirement for each service to be able to perform CSAR. Using TRAP techniques, Marine forces are able to perform self-supporting CSAR missions while providing some external CSAR support. CSAR is a secondary task and is not intended to detract from the primary warfighting function of the MAGTF.[20]

What makes TRAP different?

Several factors differentiate TRAP from other CSAR concepts. These factors mainly revolve around planning requirements and the lack of a search phase. In recent years, the responsibility for CSAR has fallen on the special operations community and

[18] U.S. Marine Corps, *Assault Support, MCWP 3-24* (Washington D.C., 2 August 1999), 2-1.
[19] *MCWP 3-24*, 2-2.

deployed MAGTFs. However, the Marine Corps has not fielded specially trained and equipped personnel to specific CSAR units. Though not all specialists, a wide range of Marines have been trained to and exposed to TRAP during their careers. Additionally, the principles of TRAP closely parallel those of a raid, for which Marines train to extensively.[21]

There is No Search in TRAP. TRAP has no inherent search capability. For a TRAP to be launched with any hope for success, the location of the survivor must be known within one nautical mile. The search element of the TRAP force, provided by the GCE, is only used to perform a ground search in the immediate area around the helicopter landing zone.

TRAP Planning and Go-Requirements. The TRAP concept emphasizes detailed planning and the use of assigned and briefed aircrew for the specific purpose of recovering personnel and/or aircraft. The two major "go-requirements" or prerequisites for conducting a TRAP mission are: (1) the location of the survivor must be known; and (2) there must be a reasonable assurance that the survivor is alive and not in imminent danger of capture. These go-requirements are an absolute minimum.[22] Additional go-requirements would be developed during mission analysis but would largely focus on the

[20] *MCWP 3-24*, 2-3.
[21] MAWTS-1 "TRAP Planning Student Handout," (Yuma: Government Printing Office, 15 August 2000), 3.
[22] *NWP 3-22.5-CH53*, 16-7.

threat in the operating area. Joint publication 3-50.2 includes a TRAP decision matrix that helps determine "go" or "no-go" for a TRAP mission.[23]

Categories of TRAP. TRAP is different from other forms of CSAR in that it deals with aircraft repair and recovery in addition to the better known PR mission. The recovery and repair category missions are known as "mechanical TRAPs." Mechanical TRAP can include the external lift and recovery of a downed aircraft for repair or salvage. Another form of mechanical TRAP is the expeditious field repair of a damaged aircraft in order to allow it to be flown back to the ship or a more suitable repair facility. The security portion of the TRAP team is augmented by an aircraft emergency reclamation team (ERT) made up of maintenance personnel selected to fix the damaged aircraft or prepare it for external lift. In addition to recovering aircraft, TRAP teams can repair and recover ground equipment owned by the GCE. The more common and widely known category of TRAP mission is simply called a "pilot TRAP" and is the category of TRAP that fulfills the requirement for each service to provide a CSAR capability in support of its own missions. The combination of PR and aircraft recovery truly give Marine TRAP a unique flexibility.

Types of TRAP. Two types of TRAP exist: immediate and delayed. Immediate TRAP fulfills the TRAP goal of effecting an expeditious return of personnel, aircraft, or equipment without further damage or loss to friendly forces. Immediate TRAP occurs as soon after the downing as possible. Immediate TRAP provides certain advantages, making it the most desirable type since friendly forces are still in the area, and enemy

[23] *Joint Pub 3-50.2*, C-3.

forces may not have had the opportunity to react. In addition, medical attention can be quickly rendered to the survivor. Precautionary and proactive measures can be employed to enhance the chance for immediate TRAP success. TRAP forces can be placed on strip alert, in an airborne orbit, or forward deployed at an airfield, landing zone, or amphibious ship. Delayed TRAP may be necessary if other missions or the immediate threat preclude an immediate recovery. Both types can be either pilot or mechanical TRAPs.[24]

TRAP Recovery Methods. TRAP can be conducted by a single unit, such as a single helicopter, or a section of two aircraft penetrating a hostile environment to effect a recovery. Success of a single unit recovery is predicated on advanced knowledge of the exact survivor location. This is the preferred method but may be precluded by the threat. The other TRAP recovery method is the TRAP Task Force (TTF). The TTF can be a large armada of aircraft, or a section of Cobras escorting a section of CH-53Es. The other assets in a TTF can help the recovery aircraft locate and authenticate the survivor while providing fire support throughout the mission. Typical TTF elements include an airborne mission commander (AMC), an on-scene commander (OSC), TRAP helicopters (rescue vehicles), rescue escort (RESCORT), rescue combat air patrol (RESCAP), and various support assets such as tankers and electronic warfare platforms.[25]

A Concise History of Rescue and TRAP in the Marine Corps

Some may argue that the United States Marine Corps has no business in the rescue business, but the Marines have a long history of conducting aerial rescue missions.

[24] *NWP 3-22.5-CH53,* 16-9.
[25] *NWP 3-22.5-CH53,* 16-10.

Marine aviation was first employed in combat during World War I, but no evidence exists to support any claim that Marine aviation conducted rescues during this conflict. Arguably, the first Marine search and rescue mission occurred in Nicaragua in 1932. On August 21, 1932, two Marine observation amphibians departed Managua for Puerto Cabezas to begin a weeklong patrolling operation in support of Marines on the ground. The two planes encountered bad weather in the vicinity of Rama. One plane flying by instruments was able to reach the town of Bluefields, but the other aircraft was reported as missing.

The pilot of the missing aircraft had lost control of the aircraft in the poor weather but was able to bail out along with his two other aircrewmen. The crew of three safely landed in an area of high trees. Poor weather precluded immediate search and rescue efforts by land-based aircraft out of Managua; however, a transport amphibian was dispatched to and reached Bluefields to establish a base for search operations. On the following morning, August 22, four land-based aircraft and two observation amphibians from Managua, along with one transport amphibian and one observation amphibian from Bluefields, began a search along the Rama River. There were no populated areas or clearings in the dense jungle for many miles in all directions from the missing aircraft's last known location. However, by 1130 on that day three parachutes were located along with the three survivors. The aircraft itself was never found. Because there was no suitable landing area, the survivors were forced to wait for a ground patrol to link up with them and then lead them to a suitable amphibian pickup site. The survivors linked up with the patrol on August 27 and were successfully returned to base on August 30.[26]

[26] Captain Francis P. Mulcahy, "Marine Corps Aviation in Second Nicaraguan Campaign," *United States Naval Institute Proceedings* (August 1933): 1129-30.

This early combat rescue effort contains many of the elements, such as the local search and security elements, employed with today's TRAP. However, of the three functions of Marine aviation (observation, ground attack, and air transportation) listed in the 1928 annual report of aircraft squadrons in Nicaragua, rescue was not mentioned as a mission, although reinforcement and medical evacuation under the function of air transport is discussed.[27] Furthermore, there was no Marine CSAR doctrine, policy, or procedures during the inter-war years.

Marine CSAR missions during World War II took place for the most part in the Pacific Theater. Early efforts to develop an air-sea rescue capability for downed or ditched pilots can be found in a U. S. Navy Air Intelligence Group memorandum dated July 13, 1944.[28] The memorandum contains a collection of excerpts from aircraft after-action reports and battle narratives. A common thread in the excerpts was the need for standardized rescue doctrine to support Navy and Marine forces operating within the theater. Such a capability was warranted to improve the morale of the pilots and aircrew in the theater:

> Pilots are not timorous of enemy aircraft or enemy A/A as such, but they are apprehensive of landing in enemy territory and of falling into enemy hands.[29]

Another point of particular interest in the memorandum was the request for a helicopter to be assigned to each carrier group for the express purpose of performing

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[27] Major Ross E. Rowell, "Annual Report of Aircraft Squadrons, 2nd Brigade," *The Marine Corps Gazette* (December 1928): 248-254.
[28] Air Intelligence Group, Office of the Chief of Naval Operations, Department of the Navy Memorandum, "Excerpts from Aircraft Action Reports and Battle Narratives on Air-Sea Rescue and Ditching," (13 July 1944), Asd-1. A copy of the memorandum can be found at the Marine Corps Historical Branch at the Washington Navy Yard. The document is in the subject files—Aviation: WW II, Air/Sea Rescue.
[29] Air Intelligence Group Memorandum, Asd-9.

rescues of downed or ditched aircrews. One specific recommendation was forwarded from the USS Intrepid:

> It is recommended that consideration be given to the possibility of assigning a helicopter on floats to each carrier group in a combat area. This type of aircraft is suggested for the reason that it could make a slow and careful search and could alight and take off at locations not accessible to other planes. At the very least it would hover over a survivor and with a properly designed small hoisting device lower a life belt so that the pilot could hoist the survivor aboard.[30]

Submarines and seaplanes accomplished the majority of rescues during this period. One such story occurred in July of 1943 when Lieutenant Sheldon Hall of VMF-213 was shot down in his F4U Corsair. After being strafed in his raft by the Japanese, he was able to paddle to a Japanese held island. After hiding for four days, he stumbled upon a native village, the inhabitants of which were able to lead him to an Allied coastwatcher. The coastwatcher radioed a PBY (flying boat) to pick up Hall and a TBF (torpedo bomber) crew that he had been guarding.[31] Both examples illustrate that rescue efforts in World War II were focused primarily on water rescues. Though many rescues did occur in the Pacific Theater, no more than an informal network of rescuers and opportune rescue vehicles existed in the area of PR.

The Korean conflict witnessed a more formal development of CSAR in the Marine Corps. The development and expansion of the U. S. Air Force Air Rescue Service paralleled this development.[32] The introduction of the helicopter as the recovery vehicle of choice prompted the two services to pursue CSAR on a more formal basis.

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[30] Air Intelligence Group Memorandum, Asd-1.
[31] Peter B. Mersky, *U. S. Marine Corps Aviation: 1912 to Present* (Baltimore: Nautical and Aviation Publishing, 1997), 88.
[32] For more information on the development of the Air Rescue Service, see Earl H. Tilford Jr's *The United States Air Force Search and Rescue in Southeast Asia,* (Washington D.C.: Center for Air Force History, 1992).

The helicopters of VMO-6 played a significant role in supporting Marines on the ground. Brigadier General Edward A. Craig, Commanding General of the 1st Provisional Marine Brigade, stated: "Marine helicopters have proven invaluable. . . They have been used for every conceivable type of mission."[33] One of the first Marine helicopter rescues occurred on August 10, 1950. After a Corsair from VMF-323 was forced to ditch because of enemy ground fire, an HO3S-1 flown by Lieutenant Gustave F. Lueddeke recovered the downed pilot. Lueddeke continued to rescue downed pilots, sometimes behind enemy lines.[34]

Perhaps one of the first examples of a Marine helicopter picking up an Air Force pilot occurred on April 13, 1951. An HO3S-1, again from VMO-6, escorted by both Marine Corsairs and Air Force F-51 Mustangs, picked up an Air Force F-51 pilot shot down north of the Kwachon Reservoir. This combination of rescue vehicle and escort represents possibly the first TRAP Task Force employed by the Marines. The rescue helicopter was shot down itself on egress, but the entire crew and original survivor were rescued by another Marine helicopter and brought back to safety.[35] This rescue and others like it during the Korean conflict set the precedent for Marine helicopters escorted by Marine attack aircraft conducting combat rescue missions.

The period between the Korean conflict and the war in Vietnam would see the development of longer range, larger capacity aircraft such as the CH-53, and armed helicopters such as the UH-1B. In addition, the post-Korean War period witnessed the development of the helicopter-carrier concept: the LPH. These advancements would

[33] Mersky, 131.
[34] Mersky, 131.
[35] Mersky, 141.

significantly enhance the capability and relevance of airborne CSAR in the Marine Corps.

The Vietnam War, or perhaps more appropriately the conflict in Southeast Asia, was arguably the genesis of what we know today as TRAP. An integral part of Marine TRAP is the recovery of aircraft as well as people. Six CH-37 helicopters from HMH-461 deployed to Danang, Vietnam, in September 1965. These heavy lift helicopters were brought into theater expressly to lift damaged helicopters from battle areas in order to save them for possible repair or to salvage them for valuable parts. The first such lift of a damaged aircraft occurred on September 12, 1965.[36]

In September 1965, a flight of seven UH-34Ds were engaged by enemy fire and one aircraft went down. While under continuous enemy fire, a wingman immediately landed and waited for the aircrew of the downed aircraft to jump aboard his helicopter.[37] Both of these September 1965 missions reflect the TRAP concept. Missions of this type would continue throughout the conflict in Southeast Asia.

The post-Vietnam period witnessed continued development and refinement of the Marines' helicopter fleet. Of significant note was the introduction of the CH-53E Super Stallion in the early 1980s. This heavy lift helicopter was based on the CH-53D and provided increased lift, airspeed, and endurance over any other helicopter in the fleet. The CH-53E, first employed by HMH-464, provided the Marine Corps with the ability to externally lift every aircraft in the Marine Corps inventory with the exception of the KC-130. This remains true today. The Super Stallion also can lift many other tactical aircraft in use by the United States and many foreign militaries, giving it significant value and

[36] Mersky, 218. The introduction of the CH-53A later in the war would give the Marines their first reliable heavy-lift capability.

relevance as a TRAP platform. During this same period, the Marines performed combat rescue operations during Operation URGENT FURY in Grenada in 1983. Marines of HMM-261 rescued a downed Cobra pilot on October 25, 1983.[38] In addition, two months later, the Marines of HMM-261 rescued a Navy pilot from the USS Independence that had been shot down over the Bekaa Valley in Beirut, Lebanon.[39] The remainder of the 1980s and early 1990s, including the war in the Gulf, saw no TRAP or CSAR type missions in the Marine Corps. TRAP only became an official Marine Corps mission in the late 1980s with the introduction of the Marine Amphibious Unit (Special Operations Capable) (MAU (SOC)) program, but as has been discussed previously, TRAP or CSAR had been an informal Marine Corps mission for over three decades.[40]

The term TRAP came about somewhere between 1987 and 1991. The TRAP concept was developed and refined under the direction of General Al Gray, Commanding General of Fleet Marine Forces Atlantic (CGFMFLANT) at the time and subsequently the 29th Commandant of the Marine Corps.[41]

As CGFMFLANT, General Gray included TRAP as one of the original eighteen core capabilities in the first MAU(SOC)s. General Gray's command was the driving force behind development of the MAU(SOC). At that time, search and rescue was formally and almost exclusively an Air Force mission. General Gray, among others, believed that if the Marines were faced with a downed pilot incident and nobody else was around to provide assistance, the Marines had better train to the capability. Hence, TRAP

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[37] Mersky, 218.
[38] Lieutenant Colonel Ronald H. Spector, *U.S. Marines in Grenada: 1983* (Washington, D.C.: Government Printing Office, 1987), 10-12.
[39] HMM-261 (Rein) Command Chronology: 1 July 1983 through 31 December 1983.
[40] The title Marine Expeditionary Unit (MEU) replaced Marine Amphibious Unit (MAU) in 1985.

was included as an original MAU(SOC) core capability.[42] However, the term TRAP and the capability were only loosely employed for the first few years while the MAU's special operations capability rested primarily with the Marine Force Reconnaissance and SEAL detachments.

TRAP, as a specific Marine Corps mission, would not come to the forefront until June 8, 1995, when a TRAP force from the 24th MEU (SOC)) rescued Air Force Captain Scott O'Grady from war-torn Bosnia.

Successful TRAP missions in the United States Marine Corps

The following selected cases portray successful TRAP missions conducted by MEUs in the past decade. The first two examples occurred in Somalia during Operation RESTORE HOPE in 1993 and were mechanical TRAPs conducted to effect aircraft repair and recovery.

During the last week of March 1993, the 24th MEU(SOC) was conducting patrolling in the Jubba River Valley of Somalia in search of Somali bandits. While flying in support of the operations on March 29, a UH-1N from HMM-263 (Reinforced) experienced an engine oil pressure problem and made a precautionary emergency landing in the Jubba River Valley. The UH-1N's wingman immediately radioed back to the USS WASP to coordinate a TRAP mission in support of the downed helicopter. A TRAP package of one CH-53E and two CH-46Es flew in an infantry security platoon, squadron maintenance personnel, and all required tools and parts required to fix the broken aircraft.

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[41] Colonel Richard W. Spencer, CO MAG-39, interviewed by the author, 26 November 2001, Quantico, electronic mail, Marine Corps Command and Staff College, Quantico. Colonel Spencer was assigned to the III MEF Special Operations Training Group (SOTG) during TRAP concept development.

[42] Mr. Robert Aldrich, retired FBI Special Agent, interviewed by the author, 7 January 2002, Quantico, electronic mail, Marine Corps Command and Staff College, Quantico. Mr. Aldrich worked closely with

The aircraft was quickly repaired. The UH-1N, all mission aircraft, and all TRAP personnel returned back to the WASP within four hours.[43] This mission illustrates the TRAP capability to repair and recover an aircraft in an uncertain environment.

Less than one month later, on April 21, HMM-263 conducted another TRAP mission in Somalia. This second TRAP was also a mechanical TRAP but involved the actual external lift recovery of a mishap CH-46E. During a humanitarian assistance mission to move grain from a Belgium encampment in Bandar Salam to the remote village of Digiuma, a CH-46E experienced an engine failure. During the subsequent hard landing, the aircraft tore off its nose landing gear and sustained fuselage damage. A TRAP mission was again coordinated for the recovery of this aircraft.

The TRAP security platoon and an ACE maintenance recovery team were launched from the WASP to the landing zone within two hours. The security platoon established local security around the landing zone, and the maintenance Marines and helicopter support team prepared the CH-46E for external lift. On the morning of April 22, a CH-53E lifted the CH-46E and returned safely to the WASP.[44]

Leaving the aircraft in Somalia was the least preferred option, and this TRAP represented the organic capability of the MEU (SOC) to recover a weapon system that otherwise might have been lost. Fortunately, the CH-53E has the lift capability to recover all major equipment in the MEU's inventory with the exception of the M1A1 Main Battle Tank and the Assault Amphibian Vehicle (AAV).

General Gray during the development of the original training evolutions and scenarios in the MAU (SOC) program.

[43] HMM-263 (Rein) Command Chronology: 1 January through 30 June 1993.

[44] HMM-263 (Rein) Command Chronology: 1 January through 30 June 1993.

The Marine Corps' first and only successful pilot TRAP mission was the rescue of Air Force Captain Scott O'Grady, call sign: Basher-52, in Bosnia on June 8, 1995. The O'Grady rescue validated the TRAP concept as a viable option for PR in a combat environment.[45]

On June 2, 1995, O'Grady's F-16C was shot down by an SA-6 missile in the vicinity of Bosanski Petrovac, Bosnia. Within two hours of O'Grady's shootdown, the 24th MEU(SOC) convened a TRAP determination meeting and prepared aircrews and the TRAP security force for the mission. For the next six days, the 24th MEU(SOC) aboard the USS KEARSARGE shared alert responsibility for possible rescue with a joint special operations task force (JSOTF) based in Brindisi, Italy.

Captain O'Grady evaded capture by the Bosnian Serb Army for six days before making radio contact with a squadron mate, Basher-11, in the early morning of June 8. Following successful radio contact with O'Grady, Basher-11 notified an on-station Airborne Warning and Control System (AWACS) aircraft which in turn notified the Combined Air Operations Center (CAOC) and the Combined Rescue Coordination Center (CRCC) in Vicenza, Italy. Shortly after the first radio call, two Marine F/A-18Ds out of Aviano, Italy, made additional radio contact with O'Grady and determined his location on the ground.

Captain O'Grady was flying an Operation DENY FLIGHT mission which fell under the purview of both the US European Command (EUCOM) and the North Atlantic Treaty Organization (NATO) Supreme Headquarters Allied Powers Europe (SHAPE). Below SHAPE in the command structure was Allied Forces Southern Europe

[45] The information for the O'Grady TRAP mission is based on the author's recollection and personal notes as the aircraft commander of the CH-53E that actually picked Captain O'Grady up out of Bosnia.

(AFSOUTH), which controlled both the CAOC and the CRCC. Admiral Leighton Smith, in his dual roles as the Commander-in-Chief US Naval Forces Europe (CINCUSNAVEUR) and Commander AFSOUTH selected the 24th MEU(SOC) as the rescue force to pick up Captain O'Grady.

At approximately 0300 on June 8, the TRAP force aboard the KEARSARGE was provided an update on the mission. The pilots and aircrew from HMM-263 and the TRAP platoon from Weapons Company, Battalion Landing Team (BLT) 3/8, made final preparations to launch the rescue mission. The MEU received the execute order at 0439 and launched the TRAP package at 0500. At 0540, following several minutes of holding for clearance to proceed, the TRAP package of two CH-53Es, two AH-1Ws and the TRAP platoon and command group crossed the Croatian coastline. A section of AV-8Bs from HMM-263 provided fixed-wing escort for the rescue package at 18,000 feet. The flight received navigation assistance from the AWACS aircraft to circumvent known surface to air threats.

After traveling approximately 75 miles inland, the CH-53Es orbited while the AH-1Ws pushed into the objective area to authenticate O'Grady and to ensure that no threat existed in the landing zone that O'Grady had selected for his pickup. Captain O'Grady marked his position with orange smoke, and the Cobras called the Super Stallions in for the pick-up. With final terminal guidance provided by the Cobras, the two CH-53Es landed on a steeply sloped, rock and tree cluttered landing zone. A low, barbed-wire fence separated the two helicopters in the zone. Captain O'Grady ran out of the tree line right in front of the dash-2 aircraft and was helped aboard by the crewchief at

0641. The AWACS aircraft again gave assistance to the TRAP force by providing vectors for the shortest, most direct route to the waiting ship.

After encountering and passing through instrument meteorological conditions on the egress, the flight was taken under enemy fire in the vicinity of the Bosnian-Croatian border. The enemy fired small arms, twin-barrel anti-aircraft artillery (AAA), and shoulder-launched man-portable air defense systems (MANPADS) at the flight. Damage to the flight was minimal: the lead CH-53E took one small arms round through a main rotor blade and the dash-2 CH-53E took one round through a tail rotor blade and another round through the rear cargo door. The only helicopter to return fire was the dash-2 aircraft that was carrying O'Grady. The flight brought Captain O'Grady and the entire TRAP package back to the safety of the KEARSARGE at 0729—only two and a half hours after the first helicopter had launched.

As the above incidents illustrate, TRAP continues to provide a viable capability to forward-deployed Marine units and JFCs. To reinforce this point, current TRAP operations in Afghanistan during Operation ENDURING FREEDOM will be discussed in a later chapter.

Unsuccessful TRAP missions in the United States Marine Corps

An unsuccessful TRAP attempt occurred in the former Yugoslavia on September 3, 1992. Following a two-hour warning order after the possible shoot-down of an Italian G-222 cargo aircraft, the 26th MEU(SOC) launched its TRAP force from the USS IWO JIMA to search the mountainous terrain. The G-222 was on a relief mission from Zagreb

to Sarajevo.[46] The 26th MEU(SOC) had been in modified location (MODLOC) in the Adriatic Sea for Operation PROVIDE PROMISE for just that type of situation. The TRAP aircraft package consisting of two CH-53Es and two AH-1Ws launched from 140 nautical miles out to the reported location of the downed aircraft. Having neither time to sufficiently plan nor knowledge of the exact location, the search was aborted when the escort AH-1Ws' fuel level became critical and no wreckage had yet been located. The flight received enemy fire on their egress to the IWO JIMA, but all aircraft made it back safely with only minor damage to a tail rotor blade of the lead CH-53E.[47]

The reason for the failure of this mission was the inaccurate information regarding the location of the G-222. Whether there were any survivors was also not known at the time of the TRAP launch. Knowledge of both location and the existence of survivors are necessary for successful TRAP missions. A United Nations ground convoy later found the wreckage with no survivors.

[46] Blaine Hardin, "Relief Plane Crashes Approaching Sarajevo: U.S. Search Copters Report Hostile Fire," *The Washington Post: Early Edition* (September 4, 1992): A27.
[47] HMM-365 (Rein) Command Chronology: 1 July 1992 through 31 December 1992. The aircraft that received fire and damage to its tail rotor was the same CH-53E used 2 ½ years later to rescue Captain Scott O'Grady and also received fire to a tail rotor blade—Bureau Number 162001.

Chapter 3 – TRAP: Extant Capabilities

TRAP in the MAGTF—Marine Expeditionary Unit (Special Operations Capable)

Though TRAP can be conducted by any size MAGTF, the MEU is the most common MAGTF to train to and possess a TRAP capability. The Marine Corps provides the MEU(SOC) as a forward deployed MAGTF capable of responding quickly to crisis situations. There are seven standing MEUs in the Marine Corps.

Each MEU is commanded by a Colonel and has approximately 2200 Marines and sailors. The MEU has a Command Element (CE), an Aviation Combat Element (ACE), a Ground Combat Element (GCE), and a Combat Service Support Element (CSSE). The ACE is a reinforced helicopter squadron composed of medium and heavy lift assault support helicopters (4-8 CH-53Es and 12 CH-46Es), attack helicopters (4-6 AH-1Ws), utility helicopters (2-3 UH-1Ns), and fixed-wing attack aircraft (6 AV-8Bs). The GCE consists of a reinforced rifle battalion (Battalion Landing Team or BLT) with artillery, engineers, reconnaissance, motor transport, light armored vehicles, tanks, and assault amphibians. The CSSE is a MEU Service Support Group (MSSG) composed of detachments from all companies and battalions of a Force Service Support Group (FSSG) with limited capabilities from all functions of combat service support. The MEU can sustain itself for fifteen days.

Following almost six months of training as a MAGTF, the MEU is evaluated and subsequently designated as Special Operations Capable. The MEU(SOC) possesses specific maritime capabilities based on its amphibious and expeditionary nature. These capabilities are a refinement of traditional capabilities of Marine forces afloat. The

mission of the MEU(SOC) is to provide the geographic combatant Commanders-in-Chief (CinC) with the capability to conduct conventional amphibious and selected maritime special operations at night, during adverse weather, from over the horizon, under emission control (EMCON) conditions, from the sea, and by surface or by air. However, these capabilities do not make MEU(SOC)s special operations forces (SOF) but rather a forward-deployed unit capable of dealing with a wide range of contingency and crisis response missions.[48]

The capabilities of the forward deployed MEU(SOC) are divided into four categories: amphibious operations, direct action operations, military operations other than war (MOOTW), and supporting operations.[49] Direct action is the capability to conduct short-duration strikes and small-scale offensive activities, and TRAP falls into this category.[50] Specifically, TRAP is a direct action mission that satisfies the JCS requirement for each branch of the armed forces to maintain its own CSAR capability. According to Marine Corps assault support doctrine, CSAR is defined as a specialized task performed by rescue forces to effect the recovery of isolated personnel from a hostile environment during wartime or contingency operations. Recognizing the unique environments of maritime and amphibious operations, the Marine Corps fulfills this requirement with the TRAP mission.

For the MEU(SOC), TRAP is a raid type operation that relies on specific and flexible force packaging designed to defeat the threat, protect the force, and successfully

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[48] *MCWP 3-24*, 4-4.
[49] *MCWP 3-24*, 4-4. For more information refer to Marine Corps Order 3120.9A, Policy for Marine Expeditionary Unit (Special Operations Capable).
[50] *MCO 3120.9A; Policy For Marine Expeditionary Unit (Special Operations Capable) (MEU (SOC)*). November 24, 1997, 11.

recover isolated personnel without loss to the TRAP package. The 24th MEU(SOC)'s TRAP recovery of Captain Scott O'Grady from Bosnia proved that detailed mission analysis, specific force packaging based on the threat, quick reaction, and adherence to sound tactics, techniques, and procedures can lead to mission success.[51]

MEU(SOC) TRAP Package. The typical MEU(SOC) TRAP aviation combat element package consists of two CH-53Es, two AH-1Ws, two to four AV-8Bs and all associated aircrews. The GCE provides approximately 44 Marines and sailors as part of the TRAP search and security force. The platoon of choice to train for TRAP in the GCE is normally the artillery battery or the 81mm mortar platoon in the BLT's weapons company. The rationale for this is to retain the three remaining rifle companies intact for other simultaneous operations and possible contingencies. The exact size and composition of the TRAP force is determined by a detailed mission analysis. The TRAP force contains, at a minimum, search and security Marines, hospital corpsmen, communicators, and a headquarters element. As the specific mission dictates, the TRAP force can also include linguists, assault climbers, a forward air controller, necessary maintenance personnel, a combat photographer, and explosive ordnance disposal personnel.

MEU(SOC) Theater CSAR Concept of Operations. The MEU(SOC) command element typically submits a classified TRAP concept of operations (CONOPS) upon arrival in theater. The CONOPS are normally submitted to a fleet commander, joint task force (JTF) commander, or geographic CinC. The CONOPS will include specific force

[51] *MCWP 3-24*, 4-5.

package sizes, capabilities of aircraft, response times, command structure, and TRAP and CSAR points of contact within the MEU and the Amphibious Ready Group (ARG). The TRAP CONOPS reflect the standards that the MEU(SOC) has trained to during the 6-month work-up period.

MEU(SOC) TRAP training. A MEU(SOC) trains to a 6-hour response time from mission notification to mission execution for most missions, but practices from one to two hours from notification to execution for TRAP missions. Pre-deployment classroom training for the CE includes the PR 101 (Introduction to PR) and PR 301 (Personnel Recovery Plans and Operations) courses offered by the Joint Personnel Recovery Agency.[52] Additional TRAP training is conducted by the MEU with each Marine Expeditionary Force's (MEF) Special Operations Training Groups (SOTG). Practice TRAP missions are executed and evaluated throughout the entire work-up cycle. Successful execution of a TRAP mission during a MEU's SOC evaluation is a prerequisite for the SOC designation.

TRAP Training in the Marine Corps

Several Marine Corps organizations provide training and support to MEU personnel along with other designated operational forces in order to develop a TRAP knowledge base and enhance proficiency.

[52] *MCO 3502.3A Marine Expeditionary Unit (Special Operations Capable) Predeployment Training Program (MEU (SOC) PTP)*, 17. PR 101 focuses on the PR system and combatant command responsibilities to recover isolated personnel in accordance with joint doctrine. PR 301 covers the

Marine Aviation Weapons and Tactics Squadron 1 (MAWTS-1). MAWTS-1 provides much of the formal training in the Marine aviation community on the planning and execution of TRAP missions. MAWTS-1 conducts two 6-week long courses each year to train and designate Marine Weapons and Tactics Instructors (WTI) for the fleet. The WTI course covers training in all functions of Marine Aviation as well as some MAGTF and joint operations. The course creates duty experts within the aviation community with a specific emphasis on the students' aircraft specialty. TRAP planning is one of the lessons taught at the WTI course. The purpose of the TRAP lesson is to provide the requisite educational foundation for the planning, coordination, and execution of a TRAP mission. The lesson reviews TRAP/CSAR agencies and key players along with their associated responsibilities. The lesson also covers the TRAP decision-making process and specific terminal area tactics that can be applied during the execution phase of a TRAP mission.[53]

A "train-the-trainer" philosophy is a part of the WTI course of instruction. All fleet squadrons have anywhere from at least one to three WTIs on hand at any given time. Of those, one will be formally designated as the squadron WTI. The squadron WTI is charged with maintaining the squadron's Weapons and Tactics Training Program (WTTP). A part of the WTTP is the same TRAP courseware that is used at the actual WTI course. Although it does not always happen within each squadron, the annual WTTP training plan will include TRAP, and squadrons will receive a TRAP course from a WTI or another designated pilot on an annual basis.

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development, management and implementation of an integrated personnel recovery system for the unit and the CinCs Joint Search and Rescue Center.

[53] MAWTS-1 TRAP Planning Student Handout, 1.

The ACE within each MEU will have at least one WTI per each type/model/series aircraft in the ACE.[54] The WTIs are responsible for training the ACE pilots in TRAP basics as well as providing assistance in coordinating practice TRAP missions during the work-up period.

The TRAP training that MAWTS-1 provides not only benefit the MEUs that are regularly tasked with TRAP but all other forces within the Marine Aircraft Wings (MAW), Marine Expeditionary Brigades (MEB), and MEF. MAWTS-1 trained Marines and WTIs will almost certainly be deployed with Marine Expeditionary organizations as well as with service-specific and joint staffs. These Marines will then be able to share their knowledge and serve as experienced advisors or planners on CSAR matters to any staff or organization to which they may be assigned.

Special Operations Training Group. Each MEF has a SOTG. As the title indicates, the SOTGs provide training to the MEUs within their MEF as part of the MEU (SOC) pre-deployment training program. The TRAP training methods employed by SOTG include classroom, situational training exercises (STX), practical application, and full-mission profiles of a TRAP mission. The SOTG provides the first formal training that the elements of the MEU receive as a team in the form of a two-week course. The course focuses on the integration of the MEU CE, the ACE, and the primary and alternate TRAP platoons into a cohesive team capable of conducting PR and other TRAP missions. The course also provides limited instruction to other selected members of the BLT and MSSG in order to familiarize them with key mission requirements for TRAP.

[54] *MCO 3502.3A*, 25.

The course is generally broken into three phases but can be adjusted to suit the MEU and the MEF commanders' desires and real world threat assessments. The first phase focuses on training and refinement of search and security techniques and actions in the objective area for the TRAP platoons prior to executing full mission profiles. This phase is split between classroom and practical application. The second phase consists of multiple STXs and both day and night full mission profiles that integrate the BLT's TRAP platoons with the ACE. The ACE emergency reclamation team (ERT) will be integrated into the TRAP course in order to enhance the ability of the TRAP force to conduct repair and recovery of ACE aircraft in the field. The final phase includes both day and night full mission profiles that integrate the MEU CE with the ACE and the TRAP platoons. The final phase missions are normally more complex and require a compressed planning cycle. This phase also gives the MEU commander the ability to evaluate the elements within the MEU, refine both the staff planning process and the TRAP determination process.[55] Following the two-week TRAP course, the SOTG continues to provide training support to the MEU as required by the MEF and the MEU commanders. The SOTG develops the TRAP scenarios used by the MEU throughout the entire work-up cycle. Although the SOTG focuses on the MEU during TRAP training, it can provide the same type of training to other elements of the MEF as directed.

Coalition and Special Warfare Training Center. The Coalition and Special Warfare Center (CSW) at the Marine Corps Combat Development Command (MCCDC) at Quantico, Virginia, provides oversight over the MEF SOTGs and provides

[55] United States Marine Corps, II Marine Expeditionary Force, Special Operations Training Group, Letter of Instruction, "22nd Marine Expeditionary Unit Tactical Recovery of Aircraft and Personnel (Camp

coordination for MEU(SOC) training and input to certification. The CSW employs TRAP evaluation checklists contained in the TRAP operations section of the Marine Corps order on the combat readiness evaluation of selected maritime special purpose operations within a MEU (SOC). This portion of the Marine Corps Combat Readiness Evaluation System (MCCRES) contains the Mission Performance Standards (MPSs) for planning, preparation, and execution of selected maritime special purpose capabilities complementary to and in support of special operations.

The TRAP checklists within this order provide the specific TRAP MPSs for the areas of planning, task organization, conduct, integration with low altitude air defense systems, briefing, preparation, heliborne movement, TRAP site security, withdrawal, and debriefing. This document is relatively dated compared to other MEU (SOC) directives and actually predates the O'Grady rescue.[56] Evaluators are supposed to refer to these checklists during each MEU's evaluation at the end of the 6-month work-up period. Evaluation teams are normally composed of CSW personnel, MEF G-7 (wargaming and exercise staff) personnel, and selected subject matter experts from within the MEF.

Unit Level. Much of the Marine Corps' TRAP experience within individual ground and air units resides in the units' MEU(SOC) veterans and MAWTS-1 course attendees. Other than classroom training, individual units conduct infrequent to no TRAP training on a regular basis. If a unit was deployed in a combat situation as a part of a MEB or

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Lejeune, 5 June 2001).

[56] *MCO 3501.10A, Marine Corps Combat Readiness Evaluation System; Volume IX, Marine Expeditionary Unit (Special Operations Capable) (MEU (SOC)) Unit's: Selected Maritime Special Purpose Operations*, 4 Jan 1995. IX-B-46 through IX-B-54.

MEF, it would be those individuals with MEU(SOC) experience that would provide the core of any TRAP task force established by the Marine component commander.

In addition to the MEU(SOC) orders, TRAP mission performance standards (MPS) are delineated in the MCCRES orders for rotary wing squadrons.[57] The fixed wing MCCRES order does not specifically address TRAP but rather outlines the MPS for Marine fixed wing aircraft to provide rescue combat air patrols (RESCAP) for rescue task forces.[58]

Unfortunately, TRAP is not addressed as a mission and no MPSs are addressed in the MCCRES for artillery or infantry units.[59] These are the units that are normally trained as TRAP platoons in the MEU. No precedent appears to exist for non-MEU ground units. The only Marine Corps order that lists the specific TRAP MPS for ground units is the MCCRES order for MEU (SOC) selected maritime special purpose operations.[60] Ground units would probably require some type of instruction from the SOTG to train designated TRAP platoons. Nevertheless, this solution would not produce the same cohesive TRAP force that is established and required by deployed MEU(SOC)s. Because of this, the Marine component commander would most probably rely on the MEU(SOC) under his control to fulfill his organic CSAR requirement.

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[57] *MCO 3501.4A PT 1-3, Marine Corps Combat Readiness Evaluation System; Volume III, Rotary-Wing Squadrons.* June 19, 1991.
[58] *MCO 3501.5, Marine Corps Combat Readiness Evaluation System; Volume III, Fixed-Wing Squadrons.* February 7, 1994. IV-D-48 through IV-D-50.
[59] *MCO 3501.3C, Marine Corps Combat Readiness Evaluation System (MCCRES) Volume II, Infantry Units*. September 5, 2000.
[60] *MCO 3501.10A, Marine Corps Combat Readiness Evaluation System; Volume IX, Marine Expeditionary Unit (Special Operations Capable) (MEU (SOC)) Unit's: Selected Maritime Special Purpose Operations*, 4 Jan 1995. IX-B-46 through IX-B-54.

Chapter 4 – TRAP: Continued Relevance

Discussion of other CSAR Requirements

The responsibilities outlined in doctrine are not the only motivation to conduct PR. Moral obligations and other intangibles also represent requirements to conduct PR and are perhaps more important than the doctrinal requirements.

Code of Conduct Expectations. Article VI of the United States Military Code of Conduct affirms the American fighting man's trust in his God and in the United States of America. This affirmation obligates the nation to make every effort and preparation possible to recover downed airmen.

American Way of War. Former Chairman of the Joint Chiefs of Staff General Henry H. Shelton gave a speech on October 27, 2000, at the 3rd Annual Personnel Recovery Conference at Fort Belvoir, Virginia. Below are some of the key points that he made:

> America's search and rescue policy was like having life insurance—most service members don't pay attention to it until they need it.
>
> Things get exciting quickly when an airplane goes down and everybody is scrambling to rescue the crew as quickly as possible. While no other country in the world is better at search and rescue than the United States, there's still room for improvement.
>
> Maintaining America's outstanding capability in personnel recovery costs a lot in terms of people, equipment, time, and training, but it is worth every cent. You can't put a price on someone's life, and in our armed forces we are committed to doing everything we can to bring our people home. This commitment is rooted in our values as Americans and between the bonds forged between those under fire.

> Rescuing a downed service member denies the enemy both information about US forces and a political bargaining chip. Simply put, if we can get them first, they can't be exploited.
>
> Personnel recovery has another practical aspect—it's the right thing to do. It's good for morale. By pledging to put every effort into recovering our highly trained soldiers, sailors, airmen and Marines, we send a powerful signal about their importance and help sustain their spirit under the stress of combat.[61]

The above statements by General Shelton represent thinking at the highest level of American military leadership and are at the heart of CSAR in the American way of war.

Moral Argument

Cost of Not Preparing for CSAR or TRAP. The executive summary of the personnel recovery function discusses PR as one of the highest priorities within the DOD.

> Personnel recovery is an issue of national importance. Preserving the lives and well being of U.S. servicemen placed in danger of isolation or capture while participating in government-sponsored activities overseas, is one of the highest priorities of the Department of Defense. We base this high priority on four enduring principles:
>
> • First, and foremost, Americans place great value on the sanctity of human life. When the President commits forces overseas, we have a moral obligation to do everything in our power to bring our personnel home safely.
> • Second, by inculcating in the minds of our Armed Forces personnel that if they become isolated we will recover them, we build confidence and a willingness to exert their utmost in times of great stress.
> • Third, when our Armed Forces possess an effective personnel recovery capability, we deny our enemies a valuable source of intelligence and political leverage against our government.
> • Finally, our highly trained soldiers, sailors, airmen, and Marines, and DOD civilians are a valuable and limited resource, which we cannot afford to lose.[62]

[61] Rudi Williams, "Search and Rescue: Preparing for the Unthinkable," Armed Forces Press Service. <http://www.defenselink.mil/news/nov1999/n11021999_9911021.html, found through search with http://www.dtic.mil/jcs/>
[62] *Executive Summary of the Personnel Recovery Function.*

Outrage of America. The executive summary for PR also provides insight to the value the American people place on human life and the possibility of a degraded national will should a pilot be captured:

> Isolated, lost, captured, or unaccounted-for personnel can change the perception of an otherwise successful operation, and provide the enemy a powerful bargaining tool. Americans, and the American Congress, are becoming accustomed to the U.S. engaging its adversaries with few or even no American casualties. A televised view of an American being dragged through the streets of a foreign capital like we witnessed in Mogadishu, can turn the tide of our national will, and affect U.S. national policy. More recently, Saddam Hussein's public display of human shields to protect critical targets during Desert Storm could have had a profound effect on U.S. policy had the war lasted longer.[63]

A recent *Proceedings* article by James Hasik offered a possible enemy strategy to erode US will to fight. Hasik described an enemy organizing a force composed of modern high- and low-altitude air defense equipment backed up by counter-CSAR troops. The tactic, or perhaps the trick, would be to shoot down a few US aircraft with surface to air missiles (SAMs). Counter-CSAR troops would then capture the downed pilot and lure in rescue helicopters and support aircraft for targeting by infrared (IR) SAMS. The end result would be loss of American public support for the conflict:

> The American public was well trained by the Clinton Administration to think that wars are supposed to be fought without casualties. Their interest in the downing of Captain Scott O'Grady in June 1995 was touching, but it garnered more news coverage than the actual fighting in August and September of that year. This could be taken by the political leadership for a low tolerance for aircraft and crew loss rates by the electorate. How's that for strategy?[64]

Hasik's article supports the argument for a robust CSAR capability to prevent public outrage while at the same time preserving the public's will to fight. However, it also exposes the critical vulnerability that a downed pilot in enemy hands represents.

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[63] Executive Summary of the Personnel Recovery Function.
[64] James Hasik, "Air Defense after Kosovo," *Naval Institute Proceedings*, (December 2001): 76.

Expectations and traditions of Marines to rescue and recover their own. Marines have a history of not abandoning other Marines on the battlefield. Arguably, this long-standing tradition for Marines contributes in part to the willingness and desire to train for PR type TRAP missions.

Financial Argument

Cost of CSAR assets versus cost of assets needing rescue. Dollar for dollar, the cost of mounting a rescue effort for a downed pilot or aircraft will almost always exceed the value of the object to be recovered.

To illustrate this dollar cost disparity, the cost of a MEU TRAP package to rescue a Marine F/A-18C will be assessed. A basic TRAP package of two CH-53Es, two AH-1Ws and two AV-8Bs will be used to recover the F-18. The F/A-18C, a single seat aircraft, was last bought in 1999 with a then year (TY) cost of $35 million that equates to a fiscal year (FY) 2002 cost of over $37 million.[65] The TY costs of the TRAP aircraft are as follows: CH-53E (TY96), $28 million; AH-1W (TY96), $9.9 million; and AV-8B (TY99), $23 million. FY02 costs are CH-53E, $31.7 million; AH-1W, $11.2 million; and AV-8B, $24.5 million. The approximate FY02 total for two each of the above aircraft is over $134 million—almost a four times more than the cost of the F-18. This factor is only relevant if the F-18 is actually recoverable. A three-hour mission for these six aircraft adds roughly another $90,000 in support and operating costs.

[65] Major John Celigoy of Assault Support and Executive Requirements section (APW-51) in the USMC Department of Aviation, interview with author, 18 November 2001, Quantico, electronic mail, Marine Corps Command and Staff College, Quantico. All dollar figures were received from Major Celigoy. An inflation factor of 2.1% is applied to the then year (TY) cost of each aircraft in order to provide a fair comparison between different types of aircraft in fiscal year (FY) 2002 dollars.

The cost to train the pilots involved shows an even greater disparity than the aircraft costs.[66] The cost to train an F-18 pilot and an AV-8B pilot is approximately $1.8 million for each type of pilot. With two AV-8Bs in the rescue package the rescuer to survivor ratio is 2:1. Helicopter pilots are a relative bargain at approximately $500,000 each although the eight pilots required to fly the four mission helicopters cost $4 million in toto. The total rescue pilot cost is approximately $8 million that gives a 4:1 ratio of rescue to survivor cost for both pilot and equipment cost. The ratio is reduced somewhat if the downed aircraft is a four-man Marine EA-6B. The ratio in this case is approximately 2:1. Nevertheless, the ratio of rescuing an F-18 pilot with no chance to recover the aircraft rises to almost 100:1. The TRAP force at risk cost increases further when the two enlisted aircrewmen and supporting infantry in each aircraft are added to the equation. It is almost impossible to compute or estimate the intangible cost of advanced training and experience that resides with the aircrew involved on both sides of the equation. As can be seen from the above analysis, the bigger dollar pay-off is in recovering aircraft not aircrews.

Is it affordable? Clearly, the cost to replace rescue aircraft and aircrew lost in a recovery attempt far exceed that of the original downed aircraft and crew. A successful rescue or recovery, however, costs little more than the operating and support costs of the rescue aircraft. The financial cost of not attempting a rescue or recovery at all, at a minimum, is the full replacement cost of another aircraft and pilot.

The dollar cost of adding a TRAP capability to a MEU or other MAGTF is relatively small. The focus here is the addition of a TRAP force to a deployed

[66] Pilot costs are estimated from the FY98 Chief of Naval Operations (N89) Pilot Training Requirements

MEU(SOC). With or without TRAP as a mission, a MEU deploys with a relatively fixed ACE and GCE. In terms of aircraft most suitable for TRAP, the MEU normally deploys with four CH-53Es, four AH-1Ws, and six AV-8Bs. Based on the threat and fleet aircraft availability and readiness, MEUs have deployed with up to eight CH-53Es, eight AH-1Ws, and no AV-8Bs. The point here is that, regardless of aircraft mix, the MEU does not normally deploy with any extra or "fenced" aircraft specifically for conducting TRAP missions. The specific dollar cost of the TRAP capability resides primarily with ground training and the costs associated with aircraft support and operation during TRAP full mission profiles. TRAP is not free, but it does use extant aircraft, aircrews, and other Marines that would be used for amphibious assaults, raids, or humanitarian assistance operations.

Potential Lost Assets. The loss of one or many rescue aircraft alone equates to a multi-million dollar loss on top of the original downed aircraft loss. The cost of aircraft and aircrew has been covered in some detail from a financial aspect, but the many intangible costs have not been addressed.

When forces are dedicated to TRAP alert or an actual TRAP mission, they may not be lost, but they are unavailable for other taskings. Not only are aircraft and crews not available, but planners and coordinators for other taskings may also be reduced.

This is not unique to TRAP or the Marines and is probably true of all forces operating in a busy theater. Theater special operations forces (SOF) may be better equipped for CSAR, but it is not their primary mission. Like the Marines and everybody else in theater, the SOF units may be forced to double task and spread themselves too

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report. Though slightly dated, the data provides the appropriate orders of magnitude to compare pilot costs.

thinly if they are not careful. In a case such as Operation ENDURING FREEDOM in Afghanistan, CSAR is important, but it not the only game in town. Division of labor and cooperation among service components in theater is probably the best approach to adequately cover CSAR requirements. This is particularly true in a large theater when a MEU's maritime nature makes it a more appropriate choice for certain coastal areas of the theater.

Arguably, the largest intangible cost is the possible loss of focus and attention of leaders at all levels on anything but accomplishment of a rescue or recovery. This was perhaps the case during the O'Grady shoot down in 1995. The focus of the nation, from the President down to the CinC through the 24th MEU (SOC) and the theater JSOTF, was on recovering Captain O'Grady.

Relevance of TRAP today—complementary or competing?

Does the USMC TRAP capability provide a necessary and complementary tool for the MAGTF or joint force commander or is it merely a competing, redundant capability? TRAP may not be the perfect solution for CSAR, but it is a mutually supporting CSAR concept in both the MAGTF and the joint force commander's tool kit.

MEU Commander's Perspective. An interview with Colonel Paul E. Lefebvre, the current commander of the 22nd MEU(SOC), provided valuable insight into the importance of a robust TRAP capability to a forward-deployed unit.[67] A downed pilot or isolated unit that falls into the hands of our current adversaries in Afghanistan would be a

[67] Colonel Paul E. Lefebvre, Commanding Officer, 22nd MEU (SOC), interviewed by author, December 30, 2001, Quantico, electronic mail, Marine Corps Command and Staff College, Quantico.

high profile event and has the potential to exploit, perhaps, one of our greatest critical vulnerabilities. Since a situation such as this would certainly have strategic implications, joint CSAR will remain a high priority for now and the foreseeable future. In that light, SOF units in a busy theater or joint operating area (JOA) have many taskings and may not be able to contribute all of the requisite forces to CSAR. The MEU can contribute its TRAP capability as a mutually supporting asset in the JOA.

For a MEU commander, the cost of standing TRAP alert for the joint force is significant in time, assets, and required attention. Only under unusual circumstances will it be the only thing on the plate and it will fill the plate if the commander is not careful. Colonel Lefebvre points out that as he studies the tactics, history of treatment of prisoners, and associated issues of the current adversary, it becomes clear that TRAP, from both an air and ground perspective, is a very important capability. Further, the capability may become more relevant from a ground perspective than from the air based on firepower requirements and potential weather degradation.

By establishing a robust and responsive TRAP capability, the MAGTF commander can assume risk more easily and accept greater uncertainty in planning. The missions that Colonel Lefebvre is currently planning for are extremely high profile and time sensitive, and he needs a significant immediate response capability to mitigate what he may not receive from the intelligence community.

Regardless of the depth of the intelligence, the most dangerous event as seen by the MEU commander, and perhaps for the nation, is to have an aircraft shot down. This relatively simple tactical victory for the enemy would have significant strategic impact as

was demonstrated by the O'Grady and Duran shootdowns.[68] These comments from a MEU(SOC) commander, who is leading at the tip of the spear, arguably provide the best possible perspective on the necessity for TRAP.

Another Perspective. A former 24th MEU(SOC) commander and currently the Commanding General of II Marine Expeditionary Force in Camp Lejeune, Major General Martin Berndt, had this to say in an article in *Proceedings* regarding the O'Grady rescue:

> The value of forward-deployed naval forces is not lost on our civilian and military leaders. These forces are extremely flexible, mobile, and responsive, free of the burden of having to secure stationing rights or landing privileges. They can remain out of sight until they are needed, with their whereabouts often unknown to potential adversaries. Combining this high state of readiness with an ability to move the force close to an objective area without violating security makes them relevant for any number of contingency missions. Although several rescue packages were available in theater to recover Captain O'Grady, perhaps relevancy, readiness and proximity contributed to the three-ship Amphibious Ready Group (ARG) and its embarked MEU(SOC). In today's security environment, contingency response forces must be prepared to react within hours. The ability to make a contribution is often tied to a unit's location and the speed with which it can respond.[69]

Opposing View on TRAP Relevancy. In a December 1995 *Armed Forces Journal International* article, Michael Sparks argued that the O'Grady rescue was "one missile away from disaster."[70] Furthermore, he asserted that the Marines are not an elite commando unit and were not the best choice for the mission and pointed out the obvious fact that, "CH-53Es can't outrun a missile." Sparks argued that only dedicated armored CSAR helicopters should be employed in PR missions and a dedicated platform, such as

[68] CWO Michael Duran was an Army Black Hawk pilot shot down in Mogadishu, Somalia, on October 3, 1993.
[69] Brigadier General Martin R. Berndt and Major Michael C. Jordan, "The Recovery of Basher 52." *Naval Institute Proceedings* (November 1995): 41-47.

the USAF MH-60 Pave Hawk, should be deployed aboard each Navy aircraft and helicopter carrier. He further contended that, "Even in adverse weather, these helicopters can be used for single-aircraft infiltration, as opposed to relying on large, showy daylight raids, which use more force than surprise and risk more personnel to death or capture."[71] The article concluded with a laundry list of specialized rescue equipment that the Marines do not possess. Although Sparks' comments specifically refer to the O'Grady rescue, he inferred that his remarks were relevant to the entire TRAP concept.

Counters to the Opposing View. Also in the December 1995 *Armed Forces Journal International*, Capt Scott O'Grady provided the survivors perspective. O'Grady stated:

> Arguments about whether or not Marines followed doctrine (which, by the way, they did) or whether or not the right helicopters were used are ludicrous to those in desperate situations. Three rescue attempts have reportedly been made to rescue the two French fliers downed in Bosnia. I can tell you with certainty that they would not refuse recovery because the equipment used by the raid force did not conform to someone else's perceptions of what was correct.[72]

Colonel Christopher Gunther, the mission commander during the O'Grady rescue and now the Commanding Officer of the 13th MEU(SOC) had this to say about the rescue:

> Captain Scott O'Grady's rescue was by no means perfect. It was a "close run thing" as Wellington said after Waterloo. No one knows that better than myself. As the mission commander, I bear responsibility for the operation's flaws—and there were plenty. But as some saw it, the Marines committed one unpardonable sin—we succeeded.[73]

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[70] Michael L. Sparks, "One Missile Away from Disaster: The Flaws in the O'Grady Rescue," *Armed Forces Journal International* (December 1995): 18-19.
[71] Sparks, 19.
[72] Capt. Scott O'Grady, "The Rescue from my Point of View," *Armed Forces Journal International* (December 1995): 19.
[73] LtCol Christopher J. Gunther, "Fortune Favors the Bold: What a Few Good Men Can Do—The O'Grady Rescue," *Armed Forces Journal International* (December 1995): 20-23.

Lieutenant Colonel Gunther conceded that the Marines may not have the best equipment but pointed out that Marines emphasize planning and training over technology. Lieutenant Colonel Gunther closed by sharing his most important lesson learned from the rescue and perhaps the best counter to Sparks' article: In times of need, the enemy of "good" is "better."[74]

Operation ENDURING FREEDOM. TRAP operations in Afghanistan as part of the ongoing Operation ENDURING FREEDOM are perhaps the best example of the relevance of TRAP on the modern battlefield. TRAP has already been used to recover both Army and Marine aircraft following mishaps in Afghanistan.

On October 20, 2001, a TRAP force from the 15th MEU(SOC) conducted a TRAP mission to recover an Army UH-60 Black Hawk that had crashed in Pakistan. The UH-60 itself had been part of a rescue package in support of an Army mission to seize an airfield and Taliban compound in southern Afghanistan.[75] The aircraft package for this mission was four CH-53Es, four AH-1Ws, one P-3C for command and control, and four AV-8Bs on standby for fire support. The long-range mission required aerial refueling via KC-130 for the CH-53Es and a forward arming and refueling point (FARP) for the AH-1Ws. One of the Super Stallions carried the Tactical Bulk Fuel Delivery System (TBFDS) to refuel the Cobras. The remainder of the TRAP force consisted of a 24-man

[74] Gunther, 20-23.
[75] Gordon Lubold , "Marines Take Fire in Recovery Effort." *Marine Corps Times* (November 5, 2001): 3.

Marine TRAP security element and 12 Army maintenance personnel. Additional fire support was available from Pakistani ground forces along the route of flight.[76]

The downed Black Hawk was externally lifted and egressed from the area. However, the TRAP force received hostile ground fire while at an airfield for refueling, and the mission commander made the decision to abandon the Black Hawk. But the Marines returned to the airfield four days later to complete the recovery and lifted the Black Hawk back to the designated maintenance location.[77]

On November 3, 2001, elements of the same TRAP force from the 15th MEU(SOC) aboard the USS PELELIU were flown to an undisclosed location in order to provide a forward deployed rescue presence in support of operations in Afghanistan.[78]

Most recently, a TRAP force from the 26th MEU(SOC) conducted a recovery of a CH-53E in Afghanistan. On December 30, 2001, a CH-53E from HMM-365 experienced "brown-out" conditions during the insertion of a Special Forces team near Kandahar, Afghanistan, and made a hard landing. The landing on a twenty-degree slope caused damage to the aircraft's landing gear and flight controls. Unable to take off, the crew coordinated a TRAP recovery effort with the 26th MEU(SOC).

A TRAP security force of light armored vehicles (LAVs) was sent to provide security around the landing site. A LAV was used to drag the helicopter down the slope in order to provide the TRAP force's emergency reclamation team (ERT) the opportunity to assess the damage. Using steel beams and two ditches dug under the aircraft by the

[76] Information provided via e-mail from CH-53E a pilot on the mission that preferred to remain anonymous.
[77] Lubold, 3.

[78] Steve Vogel, "Elite Marine Rescue Team Answers the Call to Duty," *The Washington Post: Home Edition* (November 4, 2001): A21.

ERT, the recovery team was able to jack up the aircraft and repair it with parts cannibalized from other squadron CH-53Es. Another crew was then able to fly the aircraft back to safety on December 31.[79] This TRAP mission represents the flexibility and versatility inherent to the MEU(SOC) TRAP capability today.

The TRAP missions recently completed in Afghanistan as well as the other rescue missions described earlier in this study illuminate the wide range and variety of possible TRAP missions that Marines are ready to conduct. Furthermore, these examples amplify the point that there are many possible varieties of TRAP, and that no two TRAP missions are the same. Although the O'Grady rescue may be the best known TRAP, it shouldn't be the model upon which all other rescues are based.

[79] Gordon Lubold, "Helo Crash Recovery Required Guts, Ingenuity," *Marine Corps Times* (January 14, 2002): 8.

Chapter 5 – Conclusion

Summary

This study addressed the history and relevance of TRAP as a CSAR concept in the United States Marine Corps. The DOD requires each service to provide CSAR in support of their own operations, and TRAP is the extant concept within the Marine Corps that supports this requirement. The Marine Corps has a long history of combat rescues and TRAPs extending from 1932 in Nicaragua to the present day in Afghanistan. TRAP has evolved slowly yet steadily during this period but has had the most formative years during the past three decades.

This study largely focused on TRAP within deploying Marine Expeditionary Units, and the CSAR capability that it provides to the MAGTF and Joint Force Commander. This paper examined both moral and financial reasons for conducting personnel and aircraft recovery missions. The moral issues and financial issues combined with the many existing intangibles within the PR arena create a complex problem for leaders and commanders to deal with. This paper concludes with a discussion on the relevancy of TRAP in the present day asymmetrical threat environment.

Conclusions

There is no sound financial reason to recover an aircraft unless it is in a benign environment with little risk to the rescue crews and aircraft involved. As the threat and risk increase, the possibility of greater financial cost through the subsequent loss of rescuers and recovery aircraft also increases. The capability and benefit, however, of recovering a damaged aircraft in a benign environment for repair, salvage, or to prevent

the wreck from falling into enemy hands does have a much more acceptable cost-benefit ratio. At best case, the rescue to survivor ratio is 2:1 given the example of recovering an EA-6B and rescuing its 4-man crew. The recovery of a fixed-wing aircraft that has had its crew eject in a combat environment is virtually zero. Without the possibility of recovering a lost aircraft, the potential financial cost versus gain increases sharply. The most shocking dollar figure was represented by a 100:1 ratio in a TRAP package to rescue a single pilot. The assessment of financial factors involved with PR missions clearly does not support their execution.

Without a sound financial reason, only moral and other intangible reasons exist to support the execution of TRAP for a PR mission. Captain Scott O'Grady made this same point in a recent interview:

> PR is important to maintain flexibility in and preservation of a fighting force. PR preserves a valuable asset for future use and prevents exploitation by the enemy. PR represents the code and commitment to each other. The moral imperative to pick-up a brother in trouble is far more important than the dollar.[80]

When asked what kept him going during his evasion in Bosnia, O'Grady explained:

> God, family, and the knowledge that I would be rescued by fellow American serviceman kept me alive for the six days of evasion in Bosnia. Evade the enemy and don't give up hope—maintain confidence. The code of conduct creates a bond between American servicemen that ensures an obligation to recover our own. This trust and bond must be preserved to maintain an effective fighting force. Loss of trust and confidence would reduce morale and subsequently reduce will to evade and resist the enemy. The American military is unique in that servicemen fight shoulder-to-shoulder as brothers-in-arms and are willing to risk their lives to save one of their own.[81]

[80] Scott O'Grady, interviewed by author, January 15, 2002, Manassas, telephone, Marine Corps Command and Staff College, Quantico.
[81] O'Grady interview.

Arguably, these words by someone who has recently been on the receiving end of a rescue highlight the most important intangibles and moral reasons to conduct a rescue mission.

The moral aspects, or perhaps even the moral obligation, of rescuing a downed pilot or aircrewman increase in importance as the danger and threat to the survivor increase. Conversely, the financial aspects have a higher importance in a benign environment. This relationship between moral and financial importance demonstrates an inverse proportion of importance for conducting personnel and aircraft recoveries across the spectrum of conflict.

TRAP is a relevant and robust CSAR capability in the MAGTF commander's and JFC's tool kit. With its inherent PR and aircraft recovery capabilities, TRAP missions can be executed across a wide range of contingency and crisis response situations to provide the appropriate response in support of both moral, financial, and other intangible concerns. Additionally, TRAP is unique in the joint environment in that it has a robust and diverse aircraft recovery capability not only for Marine but other joint and combined air assets.

Certainly, the Air Force and the SOF units are more specialized and formally trained in CSAR, but they alone cannot cover all of the CSAR requirements of a JFC. TRAP is not a competing and redundant capability but rather a complementary CSAR capability to provide support to Marine forces as well as mutual support to other joint and combined forces.

When considering naval ships as sovereign United States soil, the TRAP capability deployed aboard amphibious shipping provides America with a force that has

assured access to many areas of the world capable of projecting CSAR forces where other forces in the joint community cannot. This 24/7 persistence in deployed Marine TRAP forces provide a decisive, agile, and responsive rescue and recovery capability not found elsewhere in the joint arena, and it satisfies the DOD requirement for a service CSAR capability. TRAP is a valuable tool in the MAGTF and JFC's tool kit. TRAP helps preserve precious human assets and equipment and allows the commander to more easily accept risk and uncertainty on the modern day battlefield. TRAP is truly a complementary capability that the United States Marine Corps must retain in order to support properly its own MAGTF operations as well as provide mutual CSAR support to joint operations. TRAP is a relevant CSAR concept that not only can recover aircraft but also, more importantly, can answer the moral obligation of personnel recovery.

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